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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CASCHERA, ANTONIO A

ART UNIT	PAPER NUMBER
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2628

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/842,561

Applicant(s)

CHERI ET AL.

Examiner

Antonio A. Caschera

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-11 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helms (U.S. Patent 5,952,992) in view of Ottenstein (U.S. Patent 5,270,818).

In reference to claims 1, 8 and 13, Helms discloses a method and apparatus for automatically adjusting the brightness of an LCD based upon ambient lighting conditions of the environment in which a laptop computer is used (see column 2, lines 3-6, 8-18 and Figure 1). Helms also discloses the laptop computer to comprise of a housing (see columns 2-3, lines 66-9, #11 and 13 of Figure 1), a display supported by the housing (see #12 of Figure 1), the display having a front surface (see Figure 1 for the front surface of the display #12), computing electronics supported by the housing and configured to communicate with the display (see #10 and 12 of Figures 1 & 2) and a photodetector detecting the amount of ambient light directed toward the front of the display (see column 3, lines 3-7 and #12-14 of Figure 1). Helms explicitly discloses the computing electronics to adjust the brightness of the display based on the input of the photodetector (see column 3, lines 19-56 and #14, 204 and 212 of Figure 2). Although Helms discloses providing at least one photodetector on the front surface of the LCD, detecting ambient light at this front surface and providing input to computing electronics, Helms

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does not explicitly disclose at least two photodetectors. Ottenstein discloses a system and method for automatically adjusting the brightness of cockpit displays (see column 1, lines 9-11). Ottenstein discloses the invention to also apply to other types of displays including non-CRT and MFD (multi-function display) displays (see columns 1, lines 32-36 & 45-50). Ottenstein discloses the display to comprise of a bezel, surrounding the display and therefore supporting the display (see column 1, lines 59-60). Ottenstein also discloses the bezel of the display comprising two ambient light sensors, positioned around the face of the display (see column 1, lines 59-60). Ottenstein further discloses the ambient light sensors used in providing input to the microprocessor regarding ambient light conditions at the face of the display (see column 4, lines 65-66 and #12 and 13 of Figure 1, light represented by arrows points towards the sensors & face of the display). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the automatic brightness controlling techniques of Helms with the multiple ambient light sensor configuration of Ottenstein in order to provide the computing electronics with a better representation of ambient light levels directed towards the surface of the display by supplying the electronics with multiple samples derived from the multiple sensors, thus the multiple samples provide more ambient light coverage at the display surface than only the single sensor of Helms. In reference to claim 8, Helms discloses the computing electronics providing a "BC" (brightness control) signal to the display (see #210 of Figure 2), which the Office interprets functionally equivalent to the control signal of Applicant's claim. Further note, in reference to claim 13, Ottenstein discloses the two light sensors to further comprise of a plurality of light sensors (see column 4, lines 60-62). It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrange the plurality of light

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sensors, which are embedded in a bezel, around the face of the display (see column 1, lines 59-60) at each corner of the display in order to obtain signal measurements of ambient light on the face of the display uniformly therefore providing the most accurate representation of ambient light as seen by the display. Further, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to implement a plurality (in this case, four) of photodetectors and therefore corresponding signals around the display lid in Helms. Applicant has not disclosed that explicitly supplying four light sensors and signals provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the single photodetector (signal) of Helms because the functionality of applying a photodetector to detect ambient light at a display surface and then provide readings in order to adjust the display brightness in a handheld computer is disclosed by Helms. Further, the limitation of supporting four light sensors or photodetectors simply provides a more accurate reading of light to the hardware for adjusting the display brightness. This desire to obtain a "more accurate" reading using more than one, in Applicant's claims specifically four, light sensors is a preference of the design of the invention and to which best suits the application at hand. Therefore, it would have been obvious to one of ordinary skill in this art to modify Helms to obtain the invention as specified in claim 13.

In reference to claim 2, Helms and Ottenstein disclose all of the claim limitations as applied to claim 1 above in addition, Ottenstein also discloses the bezel of the display comprising two ambient light sensors, positioned around the face of the display (see column 1, lines 59-60). Note, it would have been obvious to one of ordinary skill in the art at the time the invention was

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made to position the two light sensors of Ottenstein at opposing display edges in order to maximize the coverage of the measurements made by the two sensors, thereby again, providing a “more accurate” reading for the measure of ambient light directed towards the display surface.

In reference to claim 3, Helms and Ottenstein disclose all of the claim limitations as applied to claim 1 above in addition, Ottenstein discloses the two light sensors to further comprise of a plurality of light sensors (see column 4, lines 60-62). It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrange the plurality of light sensors, which are embedded in a bezel, around the face of the display (see column 1, lines 59-60) at each corner of the display in order to obtain measurements of ambient light on the face of the display uniformly therefore providing the most accurate representation of ambient light as seen by the display. Further, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to implement a plurality (in this case, four) photodetectors around the display lid in Helms. Applicant has not disclosed that explicitly supplying four light sensors provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant’s invention to perform equally well with the single photodetector of Helms because the functionality of applying a photodetector to detect ambient light at a display surface and then provide readings in order to adjust the display brightness in a handheld computer is disclosed by Helms. Further, the limitation of supporting four light sensors or photodetectors simply provides a more accurate reading of light to the hardware for adjusting the display brightness. This desire to obtain a “more accurate” reading using more than one, in Applicant’s claims specifically four, light sensors is a preference of the design of the invention and to which best suits the application at

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hand. Therefore, it would have been obvious to one of ordinary skill in this art to modify Helms to obtain the invention as specified in claim 3.

In reference to claim 4, Helms and Ottenstein disclose all of the claim limitations as applied to claim 3 above in addition, since the photodetectors of Helms are interfaced to computing electronics (see #14 and 204 of Figure 2), the Office interprets the photodetectors equivalent to photoelectric sensors of Applicant's claim.

In reference to claim 5, Helms and Ottenstein disclose all of the claim limitations as applied to claim 4 above in addition, Helms discloses computing a weighted average of measured signals obtained by photodetectors (one on the front surface and another on the back surface of the display lid, see Figure 4) and using the computed average to index a lookup table (see columns 4-5, lines 66-2). Note, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the automatic brightness controlling techniques of Helms with the multiple ambient light sensor configuration of Ottenstein, averaging the front facing configured sensors of Ottenstein in order to provide the computing electronics with a better representation of ambient light levels directed towards the surface of the display by supplying the electronics with multiple samples derived from the multiple sensors, thus the multiple samples provide more ambient light coverage at the display surface than only the single sensor of Helms.

In reference to claim 6, Helms and Ottenstein disclose all of the claim limitations as applied to claim 5 above in addition, Helms discloses computing a weighted average of measured signals obtained by photodetectors (one on the front surface and another on the back surface of the display lid, see Figure 4) and using the computed average to index a lookup table

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(see columns 4-5, lines 66-2). Note, the Office interprets the index value functionally equivalent to the control signal of Applicant's claims as the index value "controls" the looking into of a table of values.

In reference to claim 7, Helms and Ottenstein disclose all of the claim limitations as applied to claim 1 above in addition, Helms discloses the laptop or handheld device comprising an LCD type display (see column 3, lines 9-24 and #12 of Figure 1).

In reference to claims 9 and 14, Helms and Ottenstein disclose all of the claim limitations as applied to claims 8 and 13 respectively in addition, Helms discloses computing a weighted average of measured signals obtained by photodetectors (one on the front surface and another on the back surface of the display lid, see Figure 4) and using the computed average to index a lookup table (see columns 4-5, lines 66-2). Note, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the automatic brightness controlling techniques of Helms with the multiple ambient light sensor configuration of Ottenstein, averaging the front facing configured sensors of Ottenstein in order to provide the computing electronics with a better representation of ambient light levels directed towards the surface of the display by supplying the electronics with multiple samples derived from the multiple sensors, thus the multiple samples provide more ambient light coverage at the display surface than only the single sensor of Helms.

In reference to claims 10, 11, 15 and 16, Helms and Ottenstein disclose all of the claim limitations as applied to claims 8 and 13 in addition, Helms discloses computing a weighted average of measured signals obtained by photodetectors (one on the front surface and another on the back surface of the display lid, see Figure 4) and using the computed average to index a

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lookup table (see columns 4-5, lines 66-2). Note, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the automatic brightness controlling techniques of Helms with the multiple ambient light sensor configuration of Ottenstein, averaging the front facing configured sensors of Ottenstein in order to provide the computing electronics with a better representation of ambient light levels directed towards the surface of the display by supplying the electronics with multiple samples derived from the multiple sensors, thus the multiple samples provide more ambient light coverage at the display surface than only the single sensor of Helms. Note, the Office interprets the process of computing a weighted average of the photodetector signals in Helms, functionally equivalent to the algorithm of Applicant's claim.

2. Claims 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helms (U.S. Patent 5,952,992), Ottenstein (U.S. Patent 5,270,818) and further in view of Katada (U.S. Patent 5,933,089).

In reference to claims 12 and 17, Helms and Ottenstein disclose all of the claim limitations as applied to claims 8 and 13 respectively above. Although both Helms and Ottenstein disclose generating a brightness control signal, neither explicitly disclose generating a contrast control signal along with the brightness control signal however Katada does. Katada discloses a pager that detects light quantity received at an LCD and adjusts light intensity of the LCD according to the detected light by setting the contrast of the display (see column 3, lines 8-13). Katada discloses the contrast being adjusted by setting a contrast adjustment signal corresponding to light detected by light sensors (see column 7, lines 8-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the

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automatic brightness controlling techniques of Helms and the multiple ambient light sensor configuration of Ottenstein with the contrast control signal generation techniques of Katada in order to improve the display of text onto displays operating in environments of varying lighting conditions (see columns 2-3, lines 66-5 of Katada).

Response to Arguments

3. Applicant's arguments filed 09/11/06 have been fully considered but they are not persuasive.

In reference to claims 1-17, Applicant argues that Helms, "...is specifically designed to take advantage of low ambient light conditions rather than to address bright ambient lighting conditions," (see page 7, 2nd paragraph of Applicant's Remarks) which is apparently in contrast to Ottenstein, who teaches, "...the automatic brightness control need not and should not operate at low ambient light levels, say less than 10% of maximum," (see page 7, 3rd paragraph of Applicant's Remarks). In view of the above, Applicant argues that the reference teach away from one another and therefore there would be no motivation to combine Helms and Ottenstein (see pages 6-7 of Applicant's Remarks).

The Office firstly states that although Ottenstein may utilize his disclosed invention in a certain range of ambient light levels, Ottenstein performs his invention, nonetheless, within a low ambient light environment since Ottenstein does in fact operate upon low ambient light, the low ambient light level required to be greater than or equal to 10% of maximum. Ottenstein is not teaching away from the low ambient light conditions of Helms since Ottenstein discloses that his invention ("auto mode" see column 3, lines 66-68 of Ottenstein) operates when the ambient light

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level is at 10% of maximum. Further, since Applicant's claimed invention does not set any levels to low ambient light, the Office interprets such 10% of maximum equivalent to a low ambient light level condition.

Secondly, in response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Helms discloses a method and apparatus for automatically adjusting the brightness of an LCD based upon ambient lighting conditions, detected by a photodetector, of the environment in which a laptop computer is used (see column 2, lines 3-6, 8-18, column 3, lines 3-7 and Figure 1) and Ottenstein discloses a system and method for automatically adjusting the brightness of cockpit displays and other type displays, the displays comprising a bezel supporting two ambient light sensors providing input to the microprocessor regarding ambient light conditions at the face of the display (see column 1, lines 9-11, 32-36, 45-50, column 4, lines 65-66 and #12, 13 of Figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the automatic brightness controlling techniques of Helms with the multiple ambient light sensor configuration of Ottenstein in order to provide the computing electronics with a better representation of ambient light levels directed towards the surface of the display by supplying the electronics with multiple samples derived from the multiple sensors, thus the multiple samples provide more ambient light coverage at the display

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surface than only the single sensor of Helms. Further, the current rejection under Helms and Ottenstein solely relies upon Ottenstein for the configuration/location of ambient light sensors and not the above mentioned specifics of when/under what conditions these sensors are triggered on/off/read/accessed. The Office points out that Ottenstein does indeed use these ambient light sensors to provide input to the microprocessor regarding ambient light conditions at the face of a display (see column 4, lines 65-66 and #12 and 13 of Figure 1, light represented by arrows points towards the sensors & face of the display of Ottenstein). In other words, Ottenstein's purpose in using ambient light sensors is equivalent to the use of the photodetector/light sensor in Helms, that purpose being for detecting ambient light (see column 3, lines 3-7 of Helms and column 4, lines 65-66 and #12 and 13 of Figure 1, light represented by arrows points towards the sensors & face of the display of Ottenstein). Therefore the Office interprets that combining the handheld computer/LCD/photodetector of Helms with a functionally equivalent ambient light sensor configuration of Ottenstein is just especially since such a combination would create a more accurate and better picture image when displaying data in a computer system.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Antonio Caschera whose telephone number is (571) 272-7781. The examiner can normally be reached Monday-Thursday and alternate Fridays between 7:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung, can be reached at (571) 272-7794.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

571-273-8300 (Central Fax)

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (571) 272-2600.

aac



11/16/06

PATENT EXAMINER



KEE M. TUNG
SUPERVISORY PATENT EXAMINER